

STRUCTURE FOR POLYCRYSTALLINE DIAMOND INSERT DRILL BIT BODY AND METHOD FOR MAKING

Abstract

A method for forming a drill bit body is disclosed which comprises infiltrating powdered tungsten carbide with a binder alloy in a mold. The mold has therein at least one displacement adapted to form a mounting pad for a cutting element. The displacement comprises a substantially cylindrical body having a diameter selected to substantially conform to a radius of the cutting element and a projection adapted to form a relief groove under a position of a diamond table in the cutting element when the cutting element is mounted on the pad. The width of the relief groove is selected so that the relief groove extends back from an outer surface of the bit body at least about 40 percent of that portion of a thickness of the diamond table which does not extend past the outer surface.